eastern triplet is filled with stained glass, by Mr. Wailes. The internal length of the church is 123 feet; and the internal height to the ridge of the nave roof is 47 feet. The contemplated height of the spire is 160 feet. The architect is Mr. W. R. Dykes, of York, and the contractors are Messrs. Simpson and Malone, of Hull.——A Health of Towns' Association is about to be established at Doncaster, in connection with the metropolitan one, and for the prompt adoption of practical improvements in the drainage, water, ventilation, &c. of the town.——The Newcastle and Gateshead Whittle Dean Water-works have made great progress towards completion. The earthwork of the reservoirs at Welton has been executed. The store of water which they will contain will be about 250,000,000 of gallons,—the present consumption of Newcastle and Gateshead being rather less than 1,000,000 gallons per day. Of the twelve miles of iron aqueduct pipe, upwards of eight miles are laid. ——The alterations and repairs of Glasgow Cathedral are progressing slowly towards completion. The clock-tower at the west end has been reduced in its proportions to a level with the body of the cathedral. It is thought to be an addition never contemplated by the architect. The external repairs on the south side are completed, and the removal of the north transept is in progress. The churchyard has been lowered about 4 feet at the east end, in order to uncover the lower part of the building.

RAILWAY JOTTINGS.

Iron-girder bridges, formerly believed to have been made on a principle which insured their safety, having being found to be really not so, says a Manchester paper, it is important to know that further attempts are being made to construct bridges which shall, to a much greater extent, combine safety with economy and simplicity. Lately, says our authority, we saw a model of one which is said to combine these important properties, and is now exhibiting at the Town-hall warehouse, Cross-street. It is a perfect arch, composed wholly of iron; is 22½ feet long, 8 inches deep, 20 broad, and weighs about 6½ cwts. It combines the arch with the abutment bridge, and they can be used separately or together. All the tension parts are made of wrought-iron, and the compression parts of cast-iron. It is so constructed that the rafter and ring-post principle intersect throughout the whole of the structure; and there are chains at the bottom and centre for keeping the whole in a perfect state of tension, thus equally distributing the weight or pressure. The model now supports a weight of 50½ cwts., without having the abutments up; it, consequently, depends upon the chains entirely. We were told that, if the weight be taken off the centre of the arch, its curve would still be maintained without the slightest deviation: it possesses another important property, that of compensating itself against heat and cold.——By the suspension of railway works, it is believed that between 200,000 and 300,000 persons, in all, will be thrown destitute; and that nearly 10,000 railway navigators would be put out of employment within a distance of ten miles round Manchester alone, during the ten days just past. 'With so large a portion of their own working population suffering from the want of employment,' observes a contemporary, 'this large amount of unemployed labour thrown upon the manufacturing towns cannot fail to seriously aggravate the state of things during the coming winter.' But it probably matters little to the Stock Exchangers on whose shoulders the liability of sustaining them now falls.——The Railway Commissioners have just called for a return from all the railway companies, with the view of ascertaining the estimated amount remaining to be paid by each of them, and the probable expenditure, during each half year, to 31st December, 1851. The return is to specify the various termini, lines partially or entirely contracted for, and amounts to be expended. Under head of 'Contracts entered into,' date of expiration of contract is to be given, and amount remaining to be expended under it; estimated amount to be expended under each contract to 30th June, 1848; amount in addition to such contracts; amount required to complete works, and up to 30th June next. The return is also to give a list of lines for which no contracts have been made; of works commenced, and amount required to complete them to 30th June; of those not commenced, and amount authorised to be raised and expended, with probable expenditure during half-year ending 31st December, 1847, 30th June, 1848, and 31st December, 1848. It is understood to be quite optional with the companies whether to comply with these requirements of the return or not, as the commissioners have no power to compel them; but it is thought, says the *Times*, that, as the information sought for is not inquisitorial in its character, the return will be generally acquiesced in.——The site for the terminus of the South-Western in York-road, Lambeth, has been cleared by Messrs. Lee, the contractors for the works of the extension from Nine Elms, and they are making active progress towards the completion of the line by next spring. The viaduct is nearly completed to Westminster-road. The whole length of this viaduct, nearly two miles, passes through a densely-populated neighbourhood. The arches are to be let for shops, workshops, and dwellings, and are to be covered the entire length of the viaduct with 'Seyssel Asphalte,' prepared by help of a sort of portable steam-engine of all-work, made by Messrs. Eastern and Amos. The entire surface to be thus covered is estimated to contain about 450,000 feet.——The Lynn and Ely line was opened throughout on Monday week: from Lynn to Downham Market had been opened for some time. The bridge over the Ouse is considered a work of art, and a good specimen of carpentry. The Government inspector, Capt. Wynne, R.E., has reviewed the works. His examination is stated to have been very close and severe, his attention being most particularly directed to the bridges over the Ouse and Wissey. The engineer by whom they were constructed is Mr. J. S. Valentine, and the resident engineer Mr. Houselander. The bridge and viaduct over the Wissey is 103 yards in length, and consists of one opening of 70 feet span over the waterway, similar in construction to the bridge over the Ouse, and seven side openings of 30 feet span each, with a single span over the waterway of 121 feet 6 inches. The method adopted to support the railway over this space is by suspending the platform from three timber bows, each formed of 3-inch deals, firmly united together by oak trenails. The suspension rods are of wrought-iron, of the best material and workmanship, it is said; each rod having been proved equal to a strain of 20 tons; and as there are 72 of these rods, the weight they are capable of supporting is 1,440 tons; but the greatest weight they will be required to carry will not exceed 310 tons, the platform itself being 150 tons, a weight never likely to come upon the bridge except for the sake of experiment. The piers are of Yorkshire stone, the foundations being sunk to a depth of 30 feet. Four engines and tenders, and five waggons laden with iron, were placed upon this viaduct at the same time but the deflection, according to the *Morning Advertiser*, was scarcely perceptible. The *Morning Herald* states that the proprietor of two windmills, 150 yards from the Ouse embankment, has got 1,000*l.* compensation for 'loss of wind!'——The timbers supporting one of the arches (the seventh) of a viaduct of twenty-one arches crossing Wharf Dale and the River Wharfe, on the Leeds and Thirsk line, gave way on Tuesday week before last, while the workmen were quoining the arch, and the quoined portion fell and killed two of the workmen. This viaduct carries the railway across the river at a height of 70 feet above the surface of the water. The arch which fell was 30 feet in width. The stones had been applied to about 20 feet of the arch, and the mortar spread for the remaining ten feet of stone, when the timbers gave way. Serious apprehensions were for some time entertained as to the stability of the other six arches.——On Friday week the centre work for one of the arches of the Caldervale viaduct was blown down by the wind, and a damage of 200*l.* sustained. ——The laborious work of arousing railway directors to a sense of their duty, their interest, and their safety, as well as the safety of the public, seems now about to be rewarded with something like success in the manifestation, at length, of a reluctant endeavour to provide the simple means of securing both. The South-Western Company have recently affixed to the guards' carriages a very loud sounding bell, to be rung by the guard while the red or danger flag flies up, as a signal to the engine-driver to stop the train. Various simple, but it is said effectual, contrivances are also being instituted on some Scottish lines, including what a clergyman in the *Times* also recommends, namely, a suggestion lately made by ourselves, that the side footboards of carriages be converted into a secure passage for the guards, at least on one side, by means of a rail, with space within for the movement of one person along the train, from carriage to carriage. The guards would thus be able to see or hear, and judge for themselves as to any necessity suggested by passengers for stopping the train, &c.; and might be called on for the purpose by some simple but efficient communication between the carriages and their seats, but they should be also appointed to make the circuit at short intervals. The tickets, too, might thus be again, as once, but thus with perfect safety, collected by the guards. To prevent passengers from having exit along the guards' beat, the doors on that side might be locked by the guards.——The atmospheric trains on the South-Devon line are said, by the *Western Times*, to be running with success. We should like to see how they get through the winter campaign, however, before being again obliged, as we have been, to fluctuate perpetually, between good reports and evil, as to the doings of the atmospheric lines.——It is said that the whole of the traffic between Malton and Driffield had been conveyed on the back of a donkey previous to the formation of the Malton and Driffield Junction Railway, and that before the construction of the Newcastle and Carlisle Railway the whole of the passenger traffic on that road was done by one coach.——The contractors for the completion of the branch from the Furness line to Broughton-in-Furness, have pushed forward their undertaking, so that it will be finished in about six weeks. The station at Broughton is in the course of erection.——We learn, says the *Carlisle Journal*, that the works on the Carlisle and Glasgow line, near Dumfries, are daily increasing in interest, particularly at Nunholm, where the bridge is in course of erection. The scaffolding on which the crane travels has been carried across the river, and the wondrous machine is fairly set to work. Seizing three or four gigantic stones in its forceps, it deposits them in the foundation-bed, returns to the bank asking for more, and by its aid the operatives will soon be able to raise a rampart of mason-work above the water.—— Compensation for detainment half an hour at the head station of the Edinburgh and Granton line was recently obtained at law by a passenger who held a ticket for a train in which there was not room enough for him.—— The engineers of the Perth and Dundee Company, since witnessing the late inundation in the river and its effects, are doubtful of the propriety of following out the plans lodged for the Perth bridge, which was intended to be of wood. The navigation commissioners have also, we hear, complained to the Treasury of certain proceedings on the part of the Lords of the Admiralty, the sanction of both being required to any plan for crossing the river.—— The greatest engineering difficulty presented in the construction of the Ulster Railway, says the *Northern Whig*, was the formation of a bridge over the Bann, on the Ulster Railway, without the expenditure of an excessive sum of money. The river is of considerable breadth, and its bottom at the point of passage is composed of soft mud and bog. The difficulty, however, has been overcome, a substantial bridge having been constructed at a moderate expense from a plan by Mr. Godwin, the company's engineer. The bridge is 200 feet in length, divided into five compartments of 40 feet each. It is constructed entirely of timber, with the exception of malleable iron tension-rods attached to the girders, technically termed 'trusses.' The height of the bridge, from the summer level of the river to the rails, is 22 feet, the depth of the water about 20 feet, and the bottom consists of mud and bog, as already stated, to a depth of above 16 feet. The bridge is therefore supported on piles and framing nearly 60 feet high.——The bridge at Etaples, constructed for the passage of the railroad from Abbeville to Boulogne, fell last week. The expense of repairing

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